

Amendments to the Claims:

The following listing of claims replaces all prior versions and listings of claims in this application.

1. (Currently Amended) A preventive treatment method for a multilayer semiconductor wafer that includes a supporting substrate, at least one intermediate layer and a surface layer in which an intermediate layer has an exposed lateral edge and the wafer is to be subjected to a subsequent treatment, which method comprises treating the wafer to cause a portion of the surface layer to encapsulate the exposed lateral edge of the intermediate layer to prevent attack on the peripheral edge during the subsequent treatment, wherein the multilayer semiconductor wafer is formed by transferring at least the surface layer from a donor wafer to at least one intermediate layer by a layer transfer technique.

2. (Previously Presented) The method of claim 1 wherein the treating comprises annealing the wafer by heating to a temperature and for a time sufficient to cause the surface layer portion to cover the exposed lateral edge of the intermediate layer.

3. (Currently Amended) ~~The method of claim 2~~ A preventive treatment method for a multilayer semiconductor wafer that includes a supporting substrate, at least one intermediate layer and a surface layer in which an intermediate layer has an exposed lateral edge and the wafer is to be subjected to a subsequent treatment, which method comprises annealing the wafer to cause a portion of the surface layer to encapsulate the exposed lateral edge of the intermediate layer to prevent attack on the peripheral edge during the subsequent treatment, wherein the annealing comprises a rapid thermal annealing conducted at a temperature about 1150°C to 1300°C for a time of about 1 to 5 minutes to cause the surface layer portion to cover the exposed lateral edge of the intermediate layer.

4. (Original) The method of claim 3 wherein the annealing temperature is on the order of about 1200°C and the annealing time is less than about 3 minutes.

5. (Original) The method of claim 3 wherein the annealing is conducted under an atmosphere of hydrogen or argon.

6. (Original) The method of claim 1 wherein the multilayer semiconductor wafer has a silicon on insulator structure.

7. (Cancelled)

8. (Original) The method of claim 7 wherein the surface layer is transferred by forming a zone of weakness in the donor wafer at a depth sufficient to define the surface layer, bonding the surface layer of the donor wafer to the intermediate layer of the supporting substrate and then detaching the surface layer from the donor wafer.

9. (Original) The method of claim 8 wherein the zone of weakness is formed by implanting ions into the donor wafer.

10. (Original) The method of claim 1 which further comprises subjecting the wafer to the subsequent treatment without detrimentally affecting the edge of the intermediate layer.

11. (Original) The method of claim 10 wherein the subsequent treatment is a chemical attack or a prolonged high temperature heat treatment.

12. (Original) The method of claim 1 which further comprises subjecting the wafer to a stabox process prior to encapsulating the exposed edge of the intermediate layer.

13. (Currently Amended) A multilayer semiconductor wafer that includes a supporting substrate, at least one intermediate layer having an exposed lateral edge, and a monocrystalline surface layer, wherein the exposed lateral edge of the intermediate layer is encapsulated with a portion of the monocrystalline surface layer to prevent attack on the peripheral edge during subsequent treatments, wherein the surface layer is made of a monocrystalline material and the exposed lateral edge of the intermediate layer is encapsulated by the monocrystalline material.

14. (Original) The wafer of claim 13 in the form of a silicon on insulator structure.

15. (Cancelled)

16. (Previously Presented) A preventive treatment method for a multilayer semiconductor wafer that includes a supporting substrate, at least one intermediate layer and a surface layer in which an intermediate layer has an exposed lateral edge and the wafer is to be subjected to a subsequent treatment, which method comprises encapsulating the exposed lateral edge of the intermediate layer with a portion of the surface layer to prevent attack on the peripheral edge during the subsequent treatment by heating the wafer using a rapid thermal annealing conducted at a temperature about 1150°C to 1300°C for a time of about 1 to 5 minutes.

17. (Previously Presented) The method of claim 16 wherein the annealing temperature is on the order of about 1200°C and the annealing time is less than about 3 minutes.

18. (Previously Presented) The method of claim 16 wherein the annealing is conducted under an atmosphere of hydrogen or argon and the surface layer is made of a monocrystalline material so that the exposed lateral edge of the intermediate layer is encapsulated with the monocrystalline material.

19. (Previously Presented) The method of claim 16 wherein the subsequent treatment is a chemical attack or a prolonged high temperature heat treatment.

20. (Previously Presented) The method of claim 16 which further comprises subjecting the wafer to a stabox process prior to encapsulating the exposed edge of the intermediate layer.